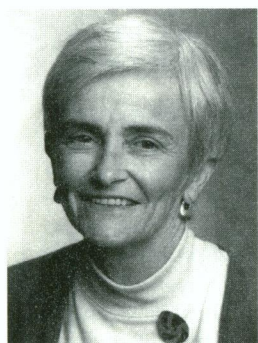


went on to encourage his fellow scientists not to search for the bottom line but to reach for greater scientific understanding. "We should be able to together bring about a better world, a world that we, as humans, can be proud of."

Two New NIEHS Developmental Centers

Columbia University in New York City and the University of Louisville in Louisville, Kentucky, join Tulane University Medical Center in New Orleans as NIEHS Developmental Centers. The centers program at the NIEHS provides focused research efforts, brings together diverse scientific disciplines to solve environmental problems, and attracts and trains young investigators. Centers also answer questions from the public on environmental problems and help identify emerging problems in the environmental health field. The NIEHS Centers Program funds 15 Environmental Health Sciences Centers and 5 Marine and Freshwater Biomedical Sciences Centers at universities throughout the United States. Developmental centers have two goals: to develop promising programs that may later be able to compete for an Environmental Health Sciences Center grant and to encourage research programs that study environmentally related health problems of economically disadvantaged and/or medically underserved populations.



Tulane University

Janet M. Hughes

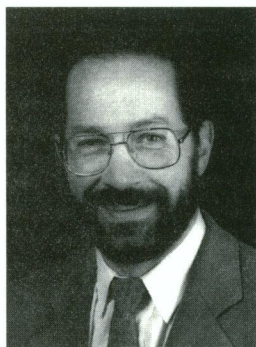
The Columbia University Developmental Center will study the major environmental health problems of socioeconomically disadvantaged populations, including the neurotoxicity and treatment of lead exposure, air pollution associated

with asthma and other pulmonary disease, the effects of environmental factors on reproduction, and the contributions of environmental exposures to cancer. The center director is Joseph Graziano, of the School of Public Health.

The University of Louisville will study biochemical, chemical, and molecular biomarkers to define exposure of human populations. The center will focus on metabolism of acrylonitrile and vinyl chloride in rat and human liver cells; biomarkers of exposure involving hemoglobin and DNA adducts of acrylonitrile; and evaluation of the p53 tumor-suppressor gene as a biomarker. The

center director is Russell A. Prough of the Department of Biochemistry, School of Medicine.

The Tulane University Medical Center was the first NIEHS Developmental Center to be funded and studies environmental components of disease in minority populations. The center is developing an exposure assessment tool to assess blood-lead levels in children, as well as studying hypertension and lead expo-



Columbia University

Joseph Graziano

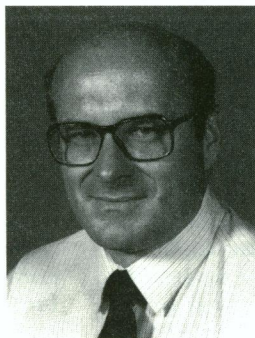
of Public Health and Tropical Medicine.

NIEHS Awards Grants on Gene Expression

The NIEHS has awarded six grants in response to its Request for Applications (RFA) "Toxic Substances Effects on Developmental Gene Expression." The goal of the grants is to stimulate research at the interface of developmental biology and developmental toxicology to generate mechanistic data on how environmental agents alter the basic processes of development and thereby contribute to developmental abnormalities in humans. Applicants were encouraged to have elements of both toxicology and molecular biology in their experimental design.

The following grants were awarded:

- Jonathan L. Tilly, Johns Hopkins University, "Selective Ovotoxicity and Cell Death Gene Expression";
- William F. Greenlee, Purdue Research Foundation, "TCDD-dependent Regulation of Thymus Development";
- Jean M. Lauder, UNC-Chapel Hill, "Regulation of GABA Expression in Neurotoxins";
- George M. Stancel, University of Texas Health Science Center-Houston, "Developmental Toxicity of Environmental Estrogens";
- Charles J. Bieberich, American Red Cross, "Effect of Environmental Toxicants on *Hox* Gene Expression";



University of Louisville

Russell A. Prough

- Rocky S. Tuan, Thomas Jefferson University, "Molecular Basis of Toxicant-induced Vertebral Anomalies."

NTP Accessed 38,000 Times via Gopher

In the nine months following the creation of the NIEHS Gopher Server, the NTP directory has been accessed more than 38,000 times by various organizations throughout the world. Gopher is designed to allow easy navigation of the Internet and access to information by even novice computer users. Most of these users accessing the NTP directory have used a full-text search to locate a particular chemical in the directory and then accessed the study report abstracts, Annual Report on Carcinogens, NTP Annual Plan, historical control tables, study status, or results-to-date for that chemical.

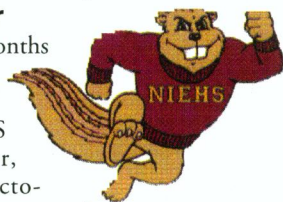
In the past, it took days or weeks (or sometimes months for those overseas) to obtain copies of technical reports and other results of NTP testing. Access via Gopher is almost instantaneous. Furthermore, users can browse through hundreds of abstracts interactively and download the ones they want to their own workstations without having to print a hard copy.

To view the NTP directory on the NIEHS Gopher server, you must have access to the Internet or an Internet client software such as Gopher, or Mosaic. The server is located at the NIEHS, and the address is GOPHER.NIEHS.NIH.GOV. Gopher client and server software is available via anonymous File Transfer Protocol from BOOMBOX.MICRO.UMN.EDU in the /PUB/GOPHER Directory. Mosaic client and server software is available in the /Web/xmosaic-source/ and in binary form in the directory/ Web/xmosaic-binaries/. The Internet email address is CDM@NIEHS.NIH.GOV.

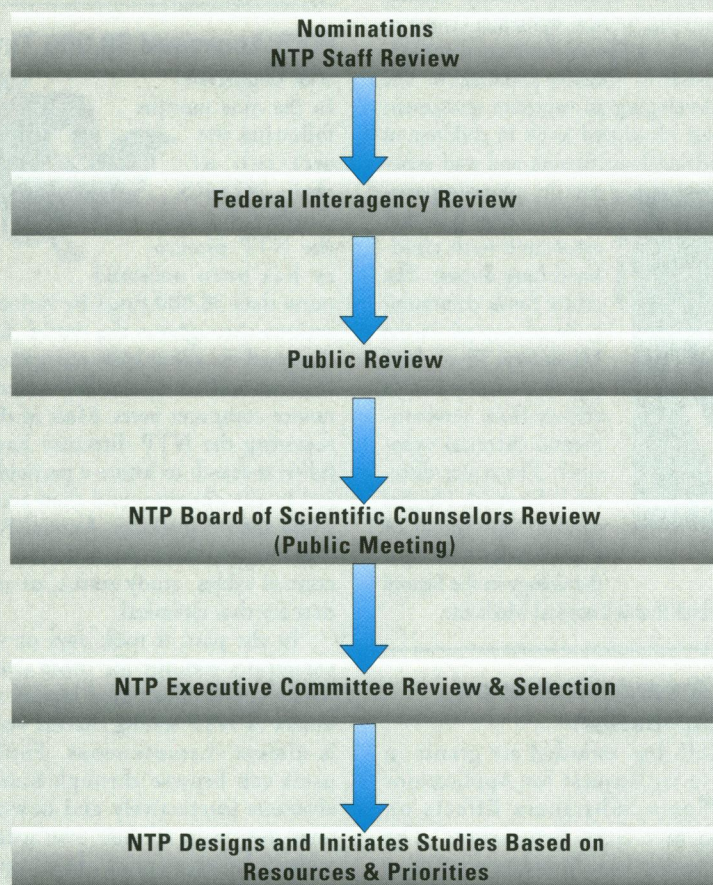
To obtain NTP information through the mail, contact Central Data Management, MD A0-01, NIEHS, PO Box 12233, Research Triangle Park, NC 27709 USA; telephone: (919) 541-3419, FAX: (919) 541-4714.

McLachlan Accepts Tulane Post

After a 21-year NIEHS career during which he progressed from research associate to scientific director, John A. McLachlan has accepted the position of director of the Tulane-Xavier Center for Bioenvironmental Research and professor of pharmacology at Tulane University in New



NTP CHEMICAL SELECTION PROCESS



reproductive tract in offspring and further identified malformations in male offspring as well. His recent findings on the ontogeny of the estrogen response and the role of growth factors and related signaling pathways in estrogen action continue to provide provocative new ideas for biology and medicine. Since 1979, he has been at the center of organizing several international conferences on estrogens in the environment. McLachlan has delivered over 120 invited lectures and published more than 150 research and overview articles in the scientific literature.

In a memo to NIEHS employees announcing his decision, McLachlan said, "Like many of you, I have spent most of my adult life at the institute and regard it, and you, with utmost respect and affection. It will be hard to go, but new opportunities and challenges afforded at Tulane excite and energize me." NIEHS Director Kenneth Olden called McLachlan a leader in his field and said he plans to have him back to NIEHS as a visiting scientist. "John will continue to be a part of the institute," Olden said. The search for a new scientific director is in progress.

NTP Invites Chemical Nominations

The National Toxicology Program invites members of the public, unions, industry groups, state and local governments, environmental organizations, academia, etc., to nominate chemicals or other agents to be studied by the NTP.

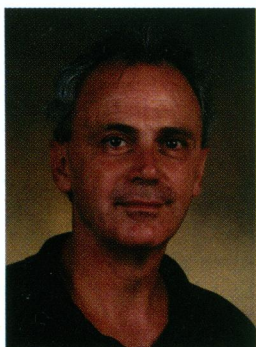
Of the 70,000 substances in commerce, adequate toxicological data are available for only 10–20%. Identifying those chemicals that have the potential to produce an adverse health effect has been the primary objective of the NTP. Established in 1978, the NTP coordinates toxicology studies within the Department of Health and Human Services. NTP's member agencies are NIH's National Institute of Environmental Health Sciences, FDA's National Center for Toxicological Research, and CDC's National Institute for Occupational Safety and Health.

Including studies done under its predecessor, the NCI Cancer Bioassay Program, NTP has completed more than 400 two-year studies in rats and mice since its establishment. Technical reports have been published for each of these bioassays, and most are available as bound booklets through the NTP Data Management Group, [telephone (919) 541-3419] or through the National Technical Information Service in Springfield, Virginia. Traditional toxicity tests, such as the two-year chronic bioassay to detect carcinogens, have been the basis for most regulatory

Orleans. McLachlan leaves the NIEHS after serving as scientific director longer than any of his predecessors, having developed and implemented many new initiatives including a major reorganization of the institute's intramural research program. During his tenure, the NIEHS established a clinical program in collaboration with UNC-CH and Duke University, and established education and outreach efforts including summer internships and an annual environmental career symposium for high school students and teachers. As scientific director, McLachlan supervised a workforce of approximately 700 scientists and support personnel in 19 different laboratories and branches and oversaw a yearly budget in excess of \$90 million. McLachlan's hallmark was his emphasis on basic research while facilitating the application of fundamental findings to toxicology testing and human studies.

During McLachlan's early years at the institute, not every-

one would have labeled him as potential executive material, despite his high energy and incisive intellect. He has often joked about his inclination to wear sandals and other "hippie" attire. However, he amply demonstrated his abilities with his scientific successes and solid leadership as head of the developmental endocrinology and pharmacology section, in the Laboratory of Reproductive and Developmental Toxicology beginning in 1976. He later became the laboratory chief, a post he retains until his departure for Tulane.



John A. McLachlan

McLachlan is internationally known for his research on diethylstilbestrol (DES) and the health effects of other environmental estrogens. He was one of the first to recognize the global health implications of environmental estrogens both in terms of research and policy. Using a mouse model, he confirmed the association between maternal use of DES and cancers and malformations of the female